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|------------------------|-------------|----------------------|---------------------|------------------|
| APPLICATION NO.        | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
| 10/590,604             | 08/24/2006  | Andrew Rowser        | 320529179US1        | 8963             |
| 25096                  | 7590        | 06/21/2010           | EXAMINER            |                  |
| PERKINS COIE LLP       |             |                      | TRAN, CHUC          |                  |
| PATENT-SEA             |             |                      |                     |                  |
| P.O. BOX 1247          |             |                      | ART UNIT            | PAPER NUMBER     |
| SEATTLE, WA 98111-1247 |             |                      | 2821                |                  |
|                        |             | NOTIFICATION DATE    | DELIVERY MODE       |                  |
|                        |             | 06/21/2010           | ELECTRONIC          |                  |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentprocurement@perkinscoie.com

|                              |                                      |                                      |
|------------------------------|--------------------------------------|--------------------------------------|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/590,604 | <b>Applicant(s)</b><br>ROWSER ET AL. |
|                              | <b>Examiner</b><br>CHUC D. TRAN      | <b>Art Unit</b><br>2821              |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### **Status**

1) Responsive to communication(s) filed on 01 February 2010.  
 2a) This action is FINAL.      2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### **Disposition of Claims**

4) Claim(s) 1,2,5-9,11-16 and 18-21 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) 1-2,6,8-914-16,19-21 is/are allowed.  
 6) Claim(s) 5,7,11-13 and 18 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### **Application Papers**

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 21 November 2005 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### **Priority under 35 U.S.C. § 119**

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### **Attachment(s)**

1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsman's Patent Drawing Review (PTO-544)  
 3) Information Disclosure Statement(s) (PTO/SB/08)  
 Paper No(s)/Mail Date 8/24/06

4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date \_\_\_\_\_  
 5) Notice of Informal Patent Application  
 6) Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Allowable Subject Matter***

1. The indicated allowability of claims 5, 7, 11-13 and 18 are withdrawn in view of the newly discovered reference(s) to Rowser et al and Chien. Rejections based on the newly cited reference(s) follow.

### ***Response to Arguments***

2. Applicant's arguments filed 2/1/10 have been fully considered but they are not persuasive.

Applicants argue that the shielding plate (20) of Chien does not direct "received signal" onto the pair of dipole probe elements. The Examiner respectfully disagrees. In Fig. 2, Chien's reference clearly teaches the shielding plate (20) directly receive signal generated from the pair of dipole probe elements (antenna) (10) (Fig. 2, Col. 2, Line 60).

### ***Drawings***

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "c" has been used to designate both "*scatter-plate*" and "*bias decoupling inductor*". Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will

be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 5, 7, 11-13 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rowser et al (USP. 6,917,336) in view of Chien (USP. 7,027,005).

Regarding claims 5, 11 and 18, Rowser et al disclose a high gain, broadband, directive, active antenna in Fig. 1 and 6, comprising: a substantially linear, balanced, high-impedance, differential voltage amplifier subassembly (two different input cascade amplifier) (Fig. 6 and 7, Col. 7, Line 31) utilizing passive lossless feedback (Fig. 6, Col. 7, Line 1-7); a pair of dipole elements (5) by material properties and geometry (Col. 5, Line 20) connected to the amplifier (Col. 1, Col. 5, Line 17) for producing an electric field sensing transduction mechanism (Fig. 6, Col. 7, Line 51); a tunable (adjustable) scatter-plate subassembly (shielding plate) (3) (Fig. 1, Col. 5, Line 38). However, Rowser et al is silent on the limitation of the scatter-plate subassembly is tuned by a distance at desired areas of the RF frequency spectrum from driven elements. Chien reference teaches in Fig. 2, the scatter-plate subassembly (shielding plate) (20) is tuned by a distance at desired areas of the RF frequency spectrum from driven elements (antenna) (10) (Chien, Col. 3, Line 59). It would have been obvious to incorporate the shielding

plate of Chien into the Rowser's antenna amplifier for inductance impedance matching between feeding circuit and antenna circuit in order to provide the amplifier high gain.

Regarding claim 11, Rowser et al and Chien disclose that the directivity is achieved by combining multiple subassemblies into fixed arrays (antenna) (5) (Rowser, Fig. 6); by combining a driven subassembly (amplifier) (Rowser, Fig. 6) with a non-driven director element (shielding plate) (20) (Chien, Fig. 2).

Regarding claim 13, Rowser et al and Chien disclose that the antenna configured to operate in a directive (Rowser, Col. 7, Line 35), capacitively-coupled loop mode in which fringing electric fields at ends of the antenna probe elements capacitively couple to the scatter-plate subassembly (Rowser, Col. 6, Line 17) and create a directive loop (feedback) effect and towards upper half of the bandwidth of interest the antenna operates in a reflector mode (Chien, (Abstract), and wherein the scatter-plate (20) is tuned such that these separate directive modes occur at convenient areas of the RF frequency spectrum (Chien, Col. 3, Line 62).

Regarding claim 7, Rowser et al disclose a high gain, broadband, directive, active antenna in Fig. 1 and 6, comprising: a substantially linear, balanced, high-impedance, differential voltage amplifier subassembly utilizing passive lossless feedback (Fig. 6, Col. 7, Line 1-7) and elevated input impedance (Col. 6, Line 26); a pair of dipole elements (5) by material properties and geometry (Col. 5, Line 20) connected to the amplifier (Col. 1, Col. 5, Line 17) for producing an electric field sensing transduction mechanism (Fig. 6, Col. 7, Line 51); a tunable (adjustable) scatter-plate subassembly (shielding plate) (3) (Fig. 1, Col. 5, Line 38), a broadband TV reception (TV antenna) (5) and the antenna exhibits a minimum front to back directive ratio (1-1) of about 8dB at high VHF and UHF frequencies (Col. 6, Line 67). However, Rowser et al is

silent on the limitation of the scatter-plate subassembly is tuned at desired of the frequency spectrum. Chien reference teaches in Fig. 2, the scatter-plate subassembly (shielding plate) (20) is tuned at desired of the RF frequency spectrum (Chien, Col. 3, Line 61). It would have been obvious to incorporate the shielding plate of Chien into the Rowser's antenna amplifier for inductance impedance matching between feeding circuit and antenna circuit in order to provide the amplifier high gain.

*Allowable Subject Matter*

6. Claims 1-2, 6, 8-9, 14-16 and 19-21 are allowed.
7. The following is a statement of reasons for the indication of allowable subject matter:

Prior art fails to disclose or suggest in combination with the remaining claimed limitation of a bias decoupling inductor to reduce noise contribution of the differential voltage amplifier in claims 1, 9, 14 and 19; claims 2, 6, 8, 15-16 and 20-21 are allowed since they are dependent on claims 1, 9, 14 and 19.

*Inquiry*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHUC D. TRAN whose telephone number is (571)272-1829. The examiner can normally be reached on M-F Flex hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas W. Owens can be reached on (571) 272-1662. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Chuc D Tran/  
Examiner, Art Unit 2821

/Douglas W Owens/  
Supervisory Patent Examiner, Art Unit 2821  
June 14, 2010